

ISS and Space Shuttle Radiation Measurements at Solar Minimum

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A summary of 2008-2011 ISS and Space Shuttle radiation dosimetry results for inside vehicle radiation monitoring in low-Earth orbit will be presented. Results include new data from ISS Expedition 22-25/20A radiation area monitors (RAM) and Shuttle Missions STS127-STS133 passive radiation dosimeters (PRD). ISS 20A radiation measurement locations included three Node 2 crew quarters locations at NOD2S5_CQ, NOD2P5_CQ and CQ-3 (Deck), as well as ESA Columbus, and JAXA Kibo locations. ISS 20A and STS127-STS133 missions were flown at 51.6° inclination with an altitude range of 330-350 km. The passive radiation results will be presented in terms of measured daily dose obtained using luminescence detectors (i.e., Al₂O₃:C, LiF:Mg,Ti and CaF₂:Tm).

In addition, preliminary results from the DOSIS 2 Project, in collaboration with the German Space Agency (DLR) will be presented. SRAG's participation to the DOSIS 2 exposure on ISS (11/16/2009-05/26/2010) involved passive radiation measurements at 10 different shielding locations inside the ESA Columbus Module.